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ABSTRACT

This study examined the efficacy of Judith Langer's PreReading Plan (PReP) with Hispanic and other high school students. Specifically, the study investigated (1) the effect the PReP has on learning when used with predominantly Anglo and Hispanic high school students in conjunction with a social studies textbook reading assignment; (2) whether there is evidence that the PReP activity has lasting effects on the amount and organization of topic knowledge in high school readers; and (3) similarity of treatment effects for students possessing varying amounts (high, middle, or low) of background knowledge. Five teachers in two urban and suburban high schools were trained to engage 125 ninth and tenth grade students in the PReP discussion in 11 social studies classrooms. Analysis of data collected revealed that the PReP treatment did not affect free and probed recall scores obtained immediately after reading but did significantly impact scores on a topic-specific knowledge measure administered after a one-week delay, independent of reading ability or existing background knowledge of the topic, suggesting the usefulness of the activity in helping students to develop well-organized domain knowledge. Furthermore, consistent with schema-theoretic views of reading comprehension, high knowledge subjects appeared to benefit most from the activity. No differences between ethnic groups emerged, implying that the PReP benefited both groups equally on delayed topic knowledge. (Two tables of data are included; 20 references and 2 appendixes containing a test-scoring rubric and teacher instruction for PReP are attached.) (KEH)

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Developing Background for Expository Text: PReP Revisited

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Presented at the annual meeting of the National Reading Conference, Austin, TX, November 30, 1989.

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Abstract

This study sought to expand the existing content area reading research base by examining the efficacy of Judith Langer's PreReading Plan (PReP) with Hispanic and other high school students. The research investigated three questions: What effect does the PReP have on learning when used with predominantly Anglo and Hispanic high school students in conjunction with a social studies textbook reading assignment? Does the PReP activity show lasting effects on the amount and organization of topic knowledge in high school readers? Are treatment effects similar for students possessing varying amounts (high, middle, or low) of background knowledge? The researcher trained five teachers in two urban and suburban high schools to engage 125 students in the PReP discussion in 11 social studies classrooms A series of multivariate analyses revealed that the PReP treatment did not affect free and probed recall scores obtained immediately after reading but did significantly impact scores on a topic-specific knowledge measure administered after a one-week delay, independent of reading ability or existing background knowledge of the topic, suggesting the usefulness of the the activity in helping students to develop well-organized domain knowledge. Furthermore, consistent with schema-theoretic views of reading comprehension, high knowledge subjects appeared to benefit most from the activity. No differences between ethnic groups emerged, implying that the PReP benefited both groups equally on delayed topic knowledge.

Developing Background for Expository Text: PReP Revisited

Background

Explorations of the working relationships between reader and text have dominated reading research for the past two decades. That well-developed, organized schemata, or prior knowledge, influence learning and remembering of prose information is now widely documented (Anderson & Pearson, 1984), but research findings on how this translates to classroom instructional practices remain sketchy or inconsistent (Alvermann & Swafford, 1989). Given what is known about reading processes and the importance of prior knowledge, there is a need for more classroom research--especially at the secondary level--which more thoroughly investigates the instructional prereading strategies espoused in content area reading methods texts. In light of changing demographics, growth in minority populations, and a tendency of researchers to use convenient, rather than representative, populations of students, the existing content area research base would also benefit from more studies which use real materials with ethnically and culturally diverse students. Furthermore, even if teachers are trained to use certain methods, according to Wendler, Samuels, & Moore (1989), there is no guarantee that even elementary teachers with graduate reading methods courses are applying their knowledge effectively during reading instruction. Given the paucity of teacher training and exposure to content methods at the secondary level, the outlook for secondary reading instruction may be even bleaker. There is, therefore, a need for more research which investigates strategies that content area teachers would be willing and able to implement in their classrooms.

In an effort to address some of the issues outlined above, this research investigated the usefulness of one instructional prereading strategy and its effects on a population of Anglo and Hispanic high school students reading social studies text The study expanded upon earlier work done by Judith Langer (Langer, 1980; 1984b; Langer & Nicholich, 1981) with a prereading group discussion activity called

the PreReading Plan (PReP). The PReP discussion is conducted in three phases. First, all students generate initial associations with a concept presented by the teacher; second, students refine and clarify initial associations; and third, students reformulate and reorganize their knowledge. The appeal of Langer's PReP activity lies in (a) a broad design which encourages "intelligent interpretation" and adjustments in procedures (Tierney, Readence, & Dishner, 1985), and (b) a view of learners as active participants. Chosen for its predicted appropriateness with students from diverse ethnic backgrounds, the strategy allows students to express what they already know about a topic using their own, natural language; provides for elaboration and refinement of their ideas; and assists students in meaningful organization and development of knowledge bases before reading takes place. The PReP activity also engenders student interactions--learning is "socially facilitated" (John-Steiner & Souberman in Vygotsky, 1978, p. 126) or mediated by peer understandings reported during the discussion as students share knowledge.

Langer's (1984b) work with sixth-graders implied that the effects of the PReP activity were strongest with average readers on moderately difficult multiple-choice questions, and that the PReP treatment significantly affected topic-knowledge scores of on-level readers obtained immediately after students read a social studies passage. Although solid theoretical underpinnings appear to support the PReP as a way to introduce new material, more classroom research was needed which explored the applications and value of the PReP as an instructional strategy (Tierney, Readence, & Dishner, 1985).

The present study sought to extend these findings in four ways: First, Langer tested the activity on sixth grade students from a suburban, middle class population. The sample for this study consisted of urban and suburban high school students from low and middle income families in a school district with a 40 percent minority enrollment . Second, Langer tested comprehension using a multiple-choice format; this research utilized free and probed recall as comprehension measures, since recall measures tend to

reflect cognitive processes more consistent with a reader's existing knowledge and organization of high-order concepts than memory recognition measures such as multiple-choice tests (Kintsch, 1974; Mathews & Camperell, 1981; Vaughan, 1985). Third, Langer examined changes in topic knowledge immediately after reading; this study has explored the PReP treatment's long-term effects on the amount and organization of topic knowledge after a one-week delay. Finally, Langer organized her students by reading level to investigate the usefulness of the PReP; this study has organized students by prior knowledge level (high, middle, or low) and controlled for reading ability to analyze treatment effects.

In order to expand upon Langer's work and investigate the usefulness of the PReP strategy with Anglo and Hispanic high school readers, this research sought answers to the following questions: (a) What effect does the PReP activity have on learning when used with predominantly Hispanic and Anglo high school students in conjunction with a social studies textbook reading assignment? (b) Does the PReP treatment show lasting effects on the amount and organization of topic-specific knowledge in high school readers? (c) Are the treatment effects similar for students possessing varying amounts (high, middle, or low) of background knowledge? With which students is the PReP activity most effective?

Method

The researcher trained five experienced social studies teachers to use the PReP strategy in their social studies classes according to training guidelines described by Showers, Joyce, & Bennett (1987). The activity focused on eliciting student responses from a key concept, "the arms race," from a textbook reading passage about the arms race which had been used by Newell (1984) in a study on writing to learn.

One hundred and twenty-five ninth and tenth grade students in 11 social studies classrooms completed all assigned tasks. Existing CTBS reading tests reported grade equivalent scores ranging from

4.1 to 12.9 for the ninth grade students and 4.6 to 12.9 for the tenth grade students in the study. Scores obtained from mainstreamed special education students and three limited-English proficient (LEP) students were eliminated from the data analysis.

In order to determine the amount of prior knowledge students had for the topic of the arms race, the researcher administered Langer's topic-specific knowledge measure (Langer, 1980; 1984b; Langer & Nicholich, 1981) as a pretest three days before the other data were collected. The topic-specific knowledge measure meets criteria for validity and reliability and has been found to be highly related to a reader's recall (Langer, 1980; Langer, 1984b; Langer & Nicholich, 1981) as well as a reliable predictor of wh-comprehension (Langer, 1984b), especially when qualitative knowledge scores are obtained. After being told to "write anything that comes to your mind when you hear the word (expression)...," students generated free-association responses to three important content words or phrases from the text passage Targeted terms were "superpowers," "balance of power," and the title, "The Arms Race."

Students were then randomly assigned to either PReP or no PReP conditions. The treatment group engaged in the following sequence of activities: They participated in the teacher-facilitated PReP discussion on the topic of the arms race, read an updated passage on the arms race excerpted from A History of the American Republic (1979) with a reported ninth to 10th-grade readability level using the Dale-Chall formula, wrote down everything they remembered about the reading during free recall without looking back at the passage, and answered four open-ended textually explicit and textually implicit questions for the probed recall task. Teacher-student interactions were audio-recorded while the researcher worked with the control students. Control group students completed a reading survey during the time treatment subjects engaged in the PReP discussion and then completed the same sequence of activities as described above.

One week later all students completed the Langer topic-knowledge measure as a post-test to examine the PReP activity's long-term effects on topic understanding.

Each student's set of pre- and post- topic knowledge responses was scored using Langer's (1984a) combined scoring plan, which yielded a range of scores from 0-26. The combined scoring system combines a fluency score, or simple count of total responses to the free association stimulus words, and a qualitative score, or score representing the highest level of organization attained. The combined score reflects the total number of responses representing the two most organized levels of knowledge, depicted as "much" and "some" in the qualitative scoring rubric shown in Appendix A. Fifty-two papers (26 pretests and 26 posttests representing a balance of both treatment and control subjects) were randomly drawn and scored blindly by a second rater. Interrater reliability was .93 for both the pretests and the posttests.

Subjects' free recall responses were tallied against statements extracted from the text which represented the macrolevel structure of the passage using a system for determining the most important ideas in an expository selection used by E. Kintsch (1988). Based upon the van Dijk & Kintsch (1983) text processing model, this procedure for deriving a macrolevel textbase was an extension and modification of the more detailed Kintsch & van Dijk (1978) propositional scoring system. Once the principal researcher and another doctoral student constructed the macrolevel textbase and agreed upon a hierarchical structure, they identified 37 propositions representing four levels of importance: Level 1 macropropositions conveying general topic knowledge and superordinate information or definitions of key concepts; Level 2 macropropositions reflecting superordinate concepts which were inferred in the passage rather than explicitly stated; Level 3 macropropositions indicating important subtopics explicit in the text; and Level 4 details denoting specific examples, events, and illustrative ideas. The scoring system also included a category for "knowledge intrusions" reflecting opinion statements (e.g., "War is wrong") or background knowledge (e.g., "The United States made the first nuclear bomb") not appearing in the textbase. Each idea unit present in a subject's protocol was matched against the proposition list and scored for its presence or absence by level. If students paraphrased an idea, they

were given full credit. A second rater rescored a subsample of 15 percent of the protocols; the two raters agreed 95 percent of the time whether a proposition from the textbase was present or absent from the subsample of protocols.

The probed recall task consisted of four passage-based, open-ended questions, two which were textually explicit and two which were textually implicit according to Pearson & Johnson's (1978) question taxonomy. The researcher assigned point values to each question, with one point given for each possible correct response. Some questions required that students list several ideas in order to earn full credit. After the researcher scored subjects' probed recall responses, a second trained rater rescored 25 percent of the sample papers which included a balance of high, middle, and low-scoring recalls representing an equal number of treatment and control subjects. A Pearson product-moment correlation yielded an interrater reliability coefficient of .85.

In order to augment information acquired during the experiment and to describe the contexts within which students and teachers interacted, the researcher obtained other descriptive data from both teachers and students in the study. These included preliminary classroom observation notes, teacher questionnaires which elicited information about the frequency and types of reading assignments and prereading activities commonly employed in their classrooms, audiotape transcriptions of the PReP discussion, student surveys relating to the usefulness of the PReP activity, and student content area reading inventories.

Results

Research questions and results of the data analyses follow:
1) What effect does the PReP activity have on reading and learning when used with predominantly Hispanic and Anglo high school social studies students in conjunction with a textbook reading assignment?
2) Does the PReP treatment show lasting effects on the amount and organization of topic-specific knowledge in high school readers?

The study utilized a Multivariate Analysis of Covariance (MANCOVA) to answer the first two research questions, with CTBS

reading subscores and topic-knowledge pretest scores entered into the analysis as covariates. Results of a 2 (ethnicity: Hispanic or other) X 2 (treatment: PReP or no PReP) factorial design revealed no main effects for the PReP treatment or ethnicity on either free recall (the total number of propositions recalled from a textbase) or probed recall (open-ended textually explicit and textually implicit questions from the reading) scores. There were also no significant treatment X ethnicity interactions, all ps > .26.

Because analyzing the PReP treatment's usefulness in light of the types of information students included in their free recalls might detect subtler treatment effects, a secondary analysis was conducted to look further into the free recall data beyond total recall scores which reflected only the gross number of ideas students recorded. The analysis employed a mixed-design MANCOVA with reading and topic knowledge pretest scores as covariates. Treatment, ethnicity, and level effects were examined, with the level effect further partitioned into three specific orthogonal contrasts: Level 1 (main topic ideas) versus Levels 2 (inferred superordinate concepts) & 3 (important subtopics); Level 2 versus Level 3, and Levels 1,2, & 3 versus Level 4 (details). The analysis did not unearth any between-subjects effects for treatment or ethnicity or any significant treatment X ethnicity interactions, all ps >.54. Students participating in the PReP activity did not perform significantly better than control group students on various comparisons of levels of recall. The analysis did produce a somewhat predictable levels effect, Wilks Lambda ( )=.38270, F (3,119)=63.98, p<.001 for each planned contrast, with students in both treatment and control groups typically recalling more high-level information in the comparisons. Students in both groups also performed poorly on Level 2 recall; e.g., they failed to refer to inferred information from the passage regarding causes and consequences of the arms race.

Marginal overall group effects on all variables taken together appeared in the multivariate tests of significance, Wilks Lambda ( ) =.93590, F=2.67, p<.06. Specifically, these effects were attributable to treatment and control group score differences on the

delayed topic-knowledge measure, which showed a significant univariate treatment effect, $F(1,119)=7.99$, $p<.01$.. Table 1 displays mean scores obtained by subjects on all three dependent measures.

3) Are the treatment effects similar for students possessing varying amounts (high, middle, or low) of background knowledge? With which students is the PReP activity most effective?

A second analysis designed to answer the third research question sorted students by preexisting knowledge level--high knowledge, some knowledge, or low knowledge--to see if the PReP treatment had differential effects on students with varying backgrounds for the topic. A 2 (ethnicity: Hispanic or other) X 2 (treatment: PReP or no PReP) Multivariate Analysis of Covariance (MANCOVA) performed separately within each knowledge group revealed significant treatment differences on delayed topic-knowledge with the high knowledge individuals, $F(1,38) = 8.19$, $p<.01$ but showed no significant main effects for treatment or ethnicity in middle and low-knowledge groups, all $ps>.14$. Table 2 shows mean scores for each knowledge group.

Although grouping students into knowledge levels required trichotomizing the frequency distribution of topic-knowledge pretest scores, this classification scheme produced a restricted range of scores, especially for the low and middle knowledge groups, and weakened the analysis. It should also be noted that organizing the subjects by knowledge level produced a loss in cell sizes which may have reduced the power to detect differences between groups.

In both analyses the covariates accounted for a significant proportion of the variance found in dependent scores. Obviously, reading ability and prior knowledge for a topic are strong predictors of recall and delayed knowledge scores.

Other findings:

The results of the analyses revealed no significant differences in performance between Hispanic and other students on the dependent measures. In most of the analyses, both groups appear to benefit relatively equally over time as a result of their involvement in the PReP discussion, with Hispanic students scoring as well, or in some cases better, than the other students in the study. In fact,

Hispanic students with high amounts of prior knowledge who participated in the PReP performed especially well on the delayed topic knowledge measure, outscoring their control group counterparts by almost 11/2 standard deviations.

When subjects were organized into groups by teacher, no discernible patterns or differences among the five teacher groups emerged, all ps>.13; e.g., no one teacher "carried" the results. Some teachers' students performed best on free recall, others on probed or delayed knowledge tasks.

Implications/Discussion

The analyses undertaken to date expand upon Langer's findings and support the PReP activity as a useful technique for introducing new material to older, ethnically diverse students. These findings suggest that the PReP treatment had a lasting effect on the amount and organization of the high school students' knowledge for the topic, but that the treatment did not impact the recall tasks performed immediately after reading the passage. Perhaps when students are to engage in immediate school tasks such as writing what they remember from a passage or answering open-ended, passage-based questions, then reading the passage alone may be enough for high school learners. Also, if students were regularly expected to perform similar tasks in school (e.g., read assigned text, then summarize or answer passage-based questions), they could have developed appropriate strategies to succeed on these kinds of school assignments without any instructional interventions.

For information to be retained and organized, however, may require more instructional intervention The PReP activity significantly affected topic-knowledge scores after a one-week delay independent of reading ability or topic-knowledge pretest scores, thus implying that the activity improves long-term learning of topic information. If, as the data suggest, the PReP activity serves as a vehicle for building and refining background knowledge, then these results complement previous research, which suggests that well-organized knowledge structures affect retrieval of

pertinent information (Chiesi, Spilich, & Voss, 1979) and performance on tasks which require understanding and memory for the situation described in a text (Maness & Kintsch, 1987). Furthermore, the PReP activity, at least as it was conducted in this study, appears to work equally well with different teachers, regardless of their teaching styles.

The results of this study also revealed no differences in performance between Hispanic and other students on the dependent measures. In most of the analyses, both groups appear to benefit relatively equally over time as a result of their involvement in the PReP activity, with Hispanic students scoring as well, or better, than the other students in the study. Because the activity encourages students to use natural, familiar language in a non-judgmental setting, to interact verbally among themselves, and to participate equally in the discussion, this non-competetive, collaborative, and interactive approach appears to be effective with Hispanic students. Future research might delve further into the language backgrounds of Hispanic students and then compare the PReP and similar activities to see which strategies facilitate learning in each language group.

Although one would predict that students with little or some topic knowledge might benefit most from a background-building discussion, the secondary analysis by prior knowledge level, although somewhat weakened by a narrow score range and reduced cell sizes, supports schema-theoretic views of comprehension and learning, which suggest that individuals with highly organized knowledge structures are better able to assimilate and organize new information in lasting, meaningful ways. It may be that students with deficient prior knowledge benefit more from prelearning activities which include direct instruction--more focus and structured guidance from the teacher--than the PReP activity affords.

These results raise other questions: Are students who have some knowledge for the topic just not using what they know? Are low knowledge students confused and unable to integrate the information presented during the PReP activity with related text

information? The PReP discussion, which is designed as a teacher-directed activity, does not address self-regulating strategies which might have improved students' performance on recall measures. Also, students were not presented with explicit, procedural or conditional instruction (Jacobs & Paris, 1987) related to how and when they might use the discussion information as they subsequently interacted with print. Perhaps, with repeated exposures to the PReP activity or specific metacognitive modeling and instruction by the teacher, students would utilize the discussion information more effectively. Different results might also be obtained with longer, more difficult passages or with readings from other subject areas. Future studies might investigate these issues with larger knowledge groups and include comparisons of several instructional techniques.

This research set out to expand the somewhat limited secondary content area reading research and to examine the usefulness of the PReP activity as a prelearning strategy appropriate for Anglo and Hispanic high school students. Although significant effects were not obtained on immediate recall measures, there is still evidence that recommends it as a classroom tool, especially if students need to learn and retain concept information from reading. Even if a teacher's purpose is to provide a framework for brief exposure, rather than lasting understanding, to a topic which actively involves students in a discussion, then the PReP may still be an appropriate instructional option. Teachers found the strategy to be an effective way to introduce new material; students enjoyed the discussion and believed that the PReP helped their passage comprehension.

Teachers often confuse "covering the content" with learning the content. The PReP provides high school teachers with a relatively simple instructional technique that appears to facilitate long-term learning of text information. If a teacher's purpose is to provide opportunities for students to learn text information in lasting, organized ways, then the PReP is one strategy that may accomplish that goal.

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Appendix A

Topic Knowledge Test-Scoring Rubric

Level	Arms Race
3 Highly Org.	**Definitions (precise)/abstract, superordinate ideas** -stocking up nuclear arsenals & weapons so that one country can dominate -competition by US & USSR through buildup of conventional & nuclear weapons (precise def.) -a weapon race between US & USSR to see who can rule the world -a race for power to see who can get the most nuclear weapons **Analogies/Linking Concept to Another Idea** -a travesty of death & destruction
2 Partially Org. (concrete, functional responses)	**Attributes/Defining Charact.** (idea is subordinate to larger concept or defines major aspect of concept) **Concrete Examples/Results** -between US & USSR -competition -disarmament -cold war -signing of treaties -test ban treaties -US is ahead with SDI -whoever has mnost technology wins -people with most weapons ahead -has gone on since WWII -can go on four years -an upset of balance could start war -people fighting to have most weapons (qualifies with weapons) -bombs -nuclear weapons -Star Wars -war -military power -destruction **Partial Definitions** -struggle for power -competition for weapons -keeping military equipment equal -development of weapons
1 Diffusely Org.	**Associations & Peripheral Cognitive Links** (too broad to be examples) -army (navy, etc.) -death -stupid game (personal assoc.) -tortoise & rabbit -communist -Ronald Reagan -fighting **Morphemes** -arm wrestling **Sound Alikes** -racing with arms **First-Hand Experiences** **No Apparent Knowledge**

Balance of Power

Definitions: (precise) & superord. concepts

3

Highly org. (superord abstract)

- -US & USSR trying to remain equal
- -when countries have the same amount of military guns and materials
- -power is equal so that both the US & USSR, if they use arms, will destroy same amount of land on each side

Analogies

- -scales stacked with warheads on each side & evenly balanced

Linking

Attributes/Defining Characteristics (defines major aspect of concept)

2

Partially org. (concrete, functional)

- -everyone is equal to one another & must be for world trust!!
- -USA=USSR
- -no country dare to fall behind
- -one trying to keep up with another
- -may be tipped by Middle East Nations

Concrete Examples/Results

- -bombs
- -nuclear missiles
- -cold war
- -arms control
- -arms race
- -peace

Partial Definitions

- -equality between countries
- -equal power so no one can take control (does not i.d. US & USSR or weapons)
- -offset missiles
- -two countries have same amount of power

Associations (peripheral links)

1

Diffusely org. (personal, loose, assoc)

- -countries
- -war
- -government (alone)
- -weight on a scale to see which has more power
- -equal
- -equal rights
- -death
- -fighting

Morphemes

- -same power

Sound Alikes

- -balance beam

First Hand Experience

- -bank book
- -checks & balances (or any reference to US gov't checks & balances)

Superpowers

Definitions:

3

Highly org. (superord. abstract)

-a state having political power over other powerful states (dictionary)
-the strongest nations of the world
-the two most powerful countries -- US & USSR
-countries that are world leaders

Analogies

Attributes/Defining Characteristics

2

Partially org. (concrete, functional)

-governments (democracy, communism)
-weapons, nuclear bombs, rockets
-missiles
-(US & USSR) want their governments to be strongest
-being a leader (among nations)
-biggest nations

Concrete Examples/Results
-USA
-USSR
-China

Partial Definitions
-strong countries
-two countries

Associations (Personal or diffuse)

1

Diffusely org. (personal, loose, assoc)

-president
-great strength
-Gorbachev, Reagan
-heroes
-war
-leaders (people)
-fighting
-money
-control

Morphemes
-powerful

Sound Alikes
-power to do something
-superman, superhero
-a form of power

First Hand Experience
-superpowers mentioned on Channel 4 news

No Apparent Knowledge
-person with special powers

Table 1

Unadjusted Mean Scores for Three Outcome Measures Reported Separately by Treatment and Ethnicity Groups

Condition	n	Free Rec	Probed Rec	Delayed Knowl.
PReP Group	63	5.49 (3.19)	3.16 (1.83)	7.02 (5.42)*
Hispanic	17	4.82 (1.63)	3.12 (1.80)	6.76 (6.40)
Other	46	5.74 (3.59)	3.17 (1.87)	7.11 (5.09)
Control	62	5.27 (2.57)	3.11 (1.32)	4.40 (2.81)
Hispanic	22	4.86 (2.66)	3.05 (1.25)	4.64 (2.74)
Other	40	5.50 (2.53)	3.15 (1.37)	4.28 (2.88)

*Note: *The table displays unadjusted means. Once covariate effects for reading and topic knowledge pretest scores were extracted, the PReP group performed significantly better than the control group on the delayed topic knowledge measure, $F(1,119)=7.99$, $p<.01$.*

Table 2

Unadjusted Mean Scores and Standard Deviations for High, Middle, and Low Prior Knowledge Groups

Condition	n	Free Rec	Probed Rec	Delayed Knowl.
HIGH[a]	44	6.6 (3.5)	3.8 (1.5)	8.9 (4.9)
PReP				
Hispanic	6	6.2 (1.8)	3.8 (1.6)	13.5 (6.3)
Other	22	7.0 (4.3)	4.2 (1.5)	9.2 (4.8)
Control				
Hispanic	6	5.1 (2.6)	2.8 (1.2)	6.5 (3.0)
Other	10	7.0 (2.6)	3.6 (1.6)	7.0 (3.5)
MIDDLE	42	5.3 (2.4)	3.4 (1.5)	5.0 (3.7)
PReP				
Hispanic	7	4.0 (1.1)	3.0 (2.1)	3.6 (2.1)
Other	9	5.9 (2.4)	3.2 (1.9)	8.2 (6.0)
Control				
Hispanic	6	5.3 (3.7)	4.2 (1.5)	5.8 (2.1)
Other	20	5.4 (2.3)	3.4 (1.2)	3.7 (2.0)
LOW	39	4.1 (2.0)	2.1 (1.2)	2.9 (2.0)
PReP				
Hispanic	4	4.3 (2.0)	2.1 (1.2)	2.9 (2.0)
Other	15	3.8 (2.0)	1.7 (1.4)	3.3 (2.4)
Control				
Hispanic	10	4.4 (2.2)	2.5 (0.7)	2.8 (1.7)
Other	10	4.2 (2.3)	2.2 (1.0)	2.7 (1.9)

[a] *High group differences favored the PReP treatment subjects once covariate effects were extracted, $F(1,38)=8.19$, $p<.01$.*

PreReading Plan (PReP) Teacher Instructions

Directions: The teacher's role in the PReP activity is that of a facilitator. The purpose of the activity is for students to express their knowledge of a topic in natural, familiar language (vs. "school language"), to participate actively in discussion, to learn from other students, and ultimately to refine and reorganize their knowledge for a topic in such a way as to enhance their comprehension.

Teachers will follow these steps:

Introduce the PReP activity--tell students, "everyone knows something about almost everything. Good readers think about what they already know about a subject before they read. This activity will help you tap knowledge you may already have--even if you don't know you have it now--about the topic of _____."

Phase 1--Elicit initial associations with the concept.
("Tell me anything and everything that comes to your mind when you hear the word/phase/expression. . . . ")

The teacher should:

- --Accept all responses nonjudgmentally; write on the board, overhead, etc.
- --Avoid asking "leading" questions designed to get at responses the teacher feels students should be making. Remember, we are eliciting information which is within the students' realm of experience.
- --Elicit responses from all students.

Phase 2--Reflection/refinement of initial associations.
Once students have elicited free association responses, the teacher asks for some clarification of ideas. ("What made you think of. . . " "What reminded you of. . . " "How come you thought of. . . " "What made you say. . . ")

At this stem, the teacher should:

- --Let student responses guide the discussion; again, avoid asking "leading" questions that have a programmed answer.

--Probe as necessary to encourage students to elabcrate upon their responses ("Could you explain that a bit?"); try to use student responses as the basis for further elaboration ("So were you thinking like Curt on that?")
--Allow for personal responses and personal experiences
--Avoid giving answers

Phase 3--Reformulation/reorganization of knowledge ("Based on our discussion, what new ideas do you have about. . ." or "What general statements could you now make about. . . based on our discussion?. . . ")

During this stage, the teacher should:

--Listen carefully to determine whether the group demonstrates adequate knowledge to read successfully.
--Facilitate the discussion and ask probing questions.
--If the group still seems to lack necessary knowledge, the teacher may have to do some direct teaching of the concept at this point. If you do need to provide clarification, <u>be sure to draw upon students' earlier responses and knowledge</u> in positive ways and use those as the basis for your teaching.